

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method of authenticating a resource reservation message sent between a source node and a destination node in a network, comprising:
 - constructing an outgoing resource reservation message, the message comprising a plurality of objects;
 - selecting multiple objects of the message;
 - constructing ~~a list~~ identification values identifying ~~each of~~ the selected multiple objects;
 - calculating a message integrity value using the selected multiple objects of the message;
 - inserting the calculated integrity value and the constructed ~~list~~ identification values in the message;
 - sending the message including the inserted integrity value and the identification values, from the source node, across a network to the destination node; and
 - authenticating the multiple objects of the message at the destination node using the message integrity value and the constructed identification values ~~list~~.

2. (Currently amended) The method of claim 1, further comprising:

inserting ~~[[an]]~~ a node identifier in the message, ~~that serves to identify where the~~
node identifier identifies either the source node or the destination node~~[[,]] in the~~
~~message~~.

3. (Currently amended) The method of claim 2, ~~where~~ wherein calculating
the message integrity value further comprises calculating the message integrity value
using ~~uses~~ the node identifier.

4. (Currently amended) The method of claim 2, ~~where~~ wherein the node
identifier comprises a network address associated with at least one of the source node or
the destination node.

5. (Currently amended) The method of claim 4, ~~where~~ wherein calculating
the message integrity value ~~further~~ comprises calculating the message integrity value
based on ~~uses~~ the network address.

6. (Currently amended) The method of claim 1, ~~where~~ wherein the
identification values list ~~comprises~~ comprise an ordered list, and ~~where~~ wherein
calculating the message integrity value comprises using the selected multiple objects in
an order specified by the ordered list.

7. (Currently amended) The method of claim 1, ~~where~~ wherein each of the
plurality of objects comprises a field of the message.

8. (Currently amended) The method of claim 1, ~~where~~ wherein the message comprises at least one of a packet, a cell, a datagram, a fragment of a packet, a fragment of a datagram, ~~[[and]]~~ or a fragment of a cell.

9. (Currently amended) The method of claim 1, ~~where~~ wherein the message comprises a Resource Reservation Protocol (RSVP) path message.

10. (Currently amended) The method of claim 1, ~~where~~ wherein the message comprises a Resource Reservation Protocol (RSVP) reservation request message.

11. (Currently amended) The method of claim 1, ~~where~~ wherein calculating the message integrity value comprises using a cryptographic algorithm.

12. (Currently amended) The method of claim 11, ~~where~~ wherein the cryptographic algorithm comprises at least one of an MD5 message digest algorithm, a secure hash algorithm (SHS), a RIPEMD-160 algorithm, a message authentication code (MAC) algorithm, a Cyclical Redundancy Checking (CRC) algorithm, a private key encryption algorithm, ~~[[and]]~~ or a public encryption key algorithm.

13. (Currently amended) The method of claim 1, further comprising:
extracting, at the destination node, the list identification values identifying ~~each of~~ the selected multiple objects from the message.

14. (Currently amended) The method of claim 13, ~~where~~ wherein authenticating the multiple objects of the message at the destination node using the message integrity value comprises:

authenticating the multiple objects of the message specified by the extracted ~~list~~
identification values.

15. (Currently amended) The method of claim 1, ~~where~~ ~~wherein~~ the message is used by routers in the network for establishing a desired level of quality of service for transmissions between the source node and the destination node.

16. (Currently amended) A system for performing resource reservation authentication in a network, comprising:

a source node comprising ~~configured to~~:

a processor to construct an outgoing resource reservation message, the message comprising a plurality of objects, select multiple objects of the message, construct a list identifying ~~each of~~ the selected multiple objects, calculate a message integrity value using the selected multiple objects and the constructed list, and insert the calculated message integrity value and the constructed list in the message, and

a network interface to send the message across the network; and

a destination node comprising ~~configured to~~:

a network interface to receive the message, and

a processor to authenticate the message using the message integrity value and the constructed list.

17. (Currently amended) A network device, comprising:

a memory configured to store instructions; [[and]]

a processor configured to execute the instructions in the memory to:

construct an outgoing resource reservation message to reserve resources in a network between the network device and a destination node, the message comprising a plurality of objects,

select multiple objects of the plurality of objects of the message,

construct a list identifying ~~each of~~ the selected multiple objects,

calculate a message integrity value using the selected multiple objects of the message, and

insert the message integrity value and the constructed list into the message[[,]]; and

a network interface to send forward the message across [[a]] the network to [[a]] the destination node for authentication of the network device at the destination node using the inserted message integrity value and the constructed list.

18. (Currently amended) The device of claim 17, ~~where wherein~~ the list comprises an ordered list, and ~~where wherein~~ the processor is further configured to calculate calculating the message integrity value comprises using the selected multiple objects in an order specified by the ordered list.

19. (Currently amended) The device of claim 17, ~~where wherein~~ each of the plurality of objects comprises a field of the message.

20. (Currently amended) The device of claim 17, ~~where wherein~~ the message comprises at least one of a packet, a cell, a datagram, a fragment of a packet, a fragment of a datagram, [[and]] or a fragment of a cell.

21. (Currently amended) The device of claim 17, where ~~wherein~~ the message comprises a Resource Reservation Protocol (RSVP) path message.

22. (Currently amended) The device of claim 17, where ~~wherein~~ the message comprises a Resource Reservation Protocol (RSVP) reservation request message.

23. (Currently amended) The device of claim 17, where ~~wherein~~ the processor is further configured to calculate the message integrity value is calculated using a cryptographic algorithm.

24. (Currently amended) The device of claim 23, where ~~wherein~~ the cryptographic algorithm comprises at least one of a MD5 message digest algorithm, a secure hash algorithm (SHS), a RIPEMD-160 algorithm, a message authentication code (MAC) algorithm, a Cyclical Redundancy Checking (CRC) algorithm, a private key encryption algorithm, ~~[[and]]~~ or a public encryption key algorithm.

25. (Currently amended) The device of claim 17, where ~~wherein~~ the message is used by routers in the network for establishing a desired level of quality of service for transmissions between the network device and the destination node.

26. (Original) A method of performing resource reservation authentication between a source node and a destination node in a network, comprising:

constructing an outgoing resource reservation message;

determining, at the source node, an authentication value using at least a portion of the message;

inserting the authentication value in the message;

forwarding the message from the source node to the destination node across the network; and

authenticating the message at the destination node using the authentication value.

27. (Currently amended) The method of claim 26, where ~~wherein~~ the outgoing resource reservation message comprises at least one of a packet, a cell, a datagram, a fragment of a packet, a fragment of a datagram, [[and]] or a fragment of a cell.

28. (Currently amended) The method of claim 26, where ~~wherein~~ the message comprises a Resource Reservation Protocol (RSVP) path message.

29. (Currently amended) The method of claim 26, where ~~wherein~~ the message comprises a Resource Reservation Protocol (RSVP) reservation request message.

30. (Currently amended) The method of claim 26, where ~~wherein~~ the authentication value is determined using a cryptographic algorithm.

31. (Currently amended) The method of claim 30, where ~~wherein~~ the cryptographic algorithm comprises at least one of a MD5 message digest algorithm, a secure hash algorithm (SHS), a RIPEMD-160 algorithm, a message authentication code (MAC) algorithm, a Cyclical Redundancy Checking (CRC) algorithm, a private key encryption algorithm, [[and]] or a public encryption key algorithm.

32. (Currently amended) The method of claim 26, where ~~wherein~~ the resource reservation message is used by network devices in the network for establishing a desired level of quality of service for transmissions between the source node and the destination node.

33. (Currently amended) A network device, comprising:
a memory configured to store instructions; [[and]]
a processor configured to execute the instructions in the memory to:
construct an outgoing resource reservation message to reserve resources in
a network between the network device and a destination node,
determine an authentication value using at least a portion of the outgoing
message and a cryptographic algorithm,
identify [[a]] the destination node for the message, and
insert the authentication value in the message[[,]]; and
a network interface to send the message across [[a]] the network to the destination
node for ~~authentication~~ authenticating the network device at the destination node using
the authentication value.

34. (Currently amended) The device of claim 33, where ~~wherein~~ the message comprises a Resource Reservation Protocol (RSVP) path message.

35. (Currently amended) The device of claim 33, where ~~wherein~~ the message comprises a Resource Reservation Protocol (RSVP) reservation request message.

36. (Currently amended) The device of claim 33, where ~~wherein~~ the cryptographic algorithm comprises at least one of a MD5 message digest algorithm, a secure hash algorithm (SHS), a RIPEMD-160 algorithm, a message authentication code (MAC) algorithm, a Cyclical Redundancy Checking (CRC) algorithm, a private key encryption algorithm, ~~[[and]]~~ or a public encryption key algorithm.

37. (Currently amended) The device of claim 33, where ~~wherein~~ the message is used by routers in the packet-switched network for establishing a desired level of quality of service for transmissions between the network device and the destination node.

38. (Currently amended) A system for performing resource reservation authentication between a source node and a destination node in a network, the system comprising:

- means for constructing a resource reservation message;
- means for generating, at the source node, an authentication value using at least a portion of the message;
- means for inserting the authentication value in the message;
- means for transmitting the message including the inserted authentication value from the source node to the destination node across the network; and
- means for authenticating the message at the destination node using the authentication value.